



Department
for Environment,
Food & Rural Affairs

Annex Five: Appendices

Regulation 9a Reporting, The Conservation of
Habitats and Species Regulations 2017 (as
amended).

January 2026

We are responsible for improving and protecting the environment. We aim to grow a green economy and sustain thriving rural communities. We also support our world-leading food, farming and fishing industries.

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Appendices

Appendix A. Vagrant Species that Occasionally Occur in England.

Species Code	Common Name (<i>Latin Name</i>)	Details
S1101	European Sturgeon (<i>Acipenser sturio</i>)	<p>European sturgeon (<i>Acipenser sturio</i>) is one of two sturgeon species native to UK waters. It is a large, slow-growing fish that typically takes between 10 and 20 years to reach maturity, with a potential lifespan of up to over 70 years. Sturgeons have an anadromous lifecycle, spending much of their lives in marine and coastal waters before moving into freshwater river habitats to spawn at regular intervals (2 - 5 years).</p> <p>Sturgeon was once commonly seen in England's larger river systems. However, populations suffered major declines due to habitat degradation, blocked migratory routes and exploitation pressures. In response, conservation efforts are underway, including the <u>UK Sturgeon Conservation Strategy and Action Plan 2023–2033</u>, which outlines steps to support recovery and improve river connectivity. There have been 5 records of European sturgeon in English waters between 2020 and 2022 (Natural England, 2024b).</p>
S1224	Loggerhead Turtle (<i>Caretta caretta</i>)	<p>The loggerhead turtle is found in the Indian, Pacific and Atlantic Oceans including the Mediterranean Sea. It is the only sea turtle to breed regularly in Europe although most individuals reaching Britain are thought to be from North America. Between the 2019 and 2024 reporting period, there have been several sightings comprising live sightings, live strandings, and dead strandings of loggerhead turtles within English waters. Most sightings are along the south/south-west coasts (Penrose and Gander, 2020; Penrose, Westfield, and Gander, 2021; Penrose, Westfield, and Gander, 2022; Penrose and Westfield, 2023; Penrose and Westfield, 2024; Penrose</p>

Species Code	Common Name (Latin Name)	Details
		and Westfield, 2025; © Marine Environmental Monitoring, TURTLE database).
S1225	Hawksbill Turtle (<i>Eretmochelys imbricata</i>)	The hawksbill turtle is an extremely rare vagrant to European Atlantic and Mediterranean waters. They are found mainly in tropical areas of the Atlantic, Pacific and Indian Oceans. Within the 2019-2024 reporting period, there have been no records of hawksbill turtles (Penrose and Gander, 2020; Penrose, Westfield, and Gander, 2021; Penrose, Westfield, and Gander, 2022; Penrose and Westfield, 2023; Penrose and Westfield, 2024; Penrose and Westfield, 2025; © Marine Environmental Monitoring, TURTLE database).
S1226	Kemp's Ridley Turtle (<i>Lepidochelis kempii</i>)	Kemp's ridley turtle is a rare but regular vagrant to British waters. It is found on the Atlantic coast of the Americas primarily breeding around the Gulf of Mexico with examples drifting to European waters by the Gulf Stream. Between 2019 and 2024 there has been several occurrences, comprising live sightings, live strandings, and dead strandings of Kemp's ridley turtles within English waters (Penrose and Gander, 2020; Penrose, Westfield, and Gander, 2021; Penrose, Westfield, and Gander, 2022; Penrose and Westfield, 2023; Penrose and Westfield, 2024; Penrose and Westfield, 2025, © Marine Environmental Monitoring, TURTLE database).
S1227	Green Turtle (<i>Chelonia mydas</i>)	Green turtles typically inhabit warm, shallow lagoons and are rarely seen in the open ocean. It is a rare visitor to British waters, typically arriving after being caught in the Gulf Stream. There have been no records of Green turtle in English waters during the reporting period (© Marine Environmental Monitoring, TURTLE database).
S1345	Humpback Whale (<i>Megaptera novaeangliae</i>)	The range for humpback whales is assumed to be all of English waters but are regularly seen in the southwest during winter months. There is a perception that humpback whale numbers in UK waters are increasing, but evidence is still limited to confirm this trend.

Species Code	Common Name (Latin Name)	Details
		Photo identification efforts for humpback whale sightings reported are being undertaken through citizen science initiatives in SW England. The SW England catalogue comprises 16 individuals, and includes matches with Scotland, Ireland, Jan Mayen Islands and Dominican Republic (Hiscock and others, 2022), highlighting that English waters are used by these migrating whales as they transition between summer and winter grounds.
S1348	Northern right whale (<i>Eubalaena glacialis</i>)	There were no available records in English waters within the reporting time period.
S2028	False killer whale (<i>Pseudorca crassidens</i>)	There were no available records in English waters within the reporting time period.
S2034	Striped dolphin (<i>Stenella coeruleoalba</i>)	The UK is the northern limit of the striped dolphin range in the Northeast Atlantic. Occurrence in UK waters is primarily focused on offshore habitats of southwest England, with occasional sightings on the west of UK (Gilles and others, 2022). Current evidence suggests the population may be decreasing although there is limited statistical power to detect genuine change in abundance. However, some evidence suggests we may see increased records in UK waters as populations range further northwards linked to environmental change (Williamson and others, 2021).
S2035	Cuvier's beaked whale (<i>Ziphius cavirostris</i>)	All beaked whale species found in the UK EEZ are present in greatest densities in offshore waters in depths greater than 1000m, proximity to sloping seafloor topography and sea surface temperature (which is species specific) (Lacey and Hammond, 2023). During the reporting time period, beaked whales were recorded in the Celtic, Irish and North Seas.
S2037	True's beaked whale	All beaked whale species found in the UK EEZ are present in greatest densities in offshore waters in depths greater than 1000m, proximity to sloping seafloor

Species Code	Common Name (Latin Name)	Details
	<i>(Mesoplodon mirus)</i>	topography and sea surface temperature (which is species specific) (Lacey and Hammond, 2023). During the reporting time period, beaked whales were recorded in the Celtic, Irish and North Seas.
S2038	Sowerby's beaked whale <i>(Mesoplodon bidens)</i>	All beaked whale species found in the UK EEZ are present in greatest densities in offshore waters in depths greater than 1000m, proximity to sloping seafloor topography and sea surface temperature (which is species specific) (Lacey and Hammond, 2023). During the reporting time period, beaked whales were recorded in the Celtic, Irish and North Seas.
S2619	Sei whale <i>(Balaenoptera borealis)</i>	Sei whales are uncommon in UK waters, with only a small number reported each year. During this reporting period, Sei whales were only sighted in waters in southwest England.
S2622	Pygmy sperm whale <i>(Kogia breviceps)</i>	Pygmy sperm whales are uncommon in UK waters, with only a small number reported each year. During this reporting time period, pygmy sperm whales were only sighted in the Celtic deep in the far southwest of the UK Exclusive Economic Zone.
S2625	Blainville's beaked whale <i>(Mesoplodon densirostris)</i>	All beaked whale species found in the UK EEZ are present in greatest densities in offshore waters in depths greater than 1000m, proximity to sloping seafloor topography and sea surface temperature (which is species specific) (Lacey and Hammond, 2023). During the reporting time period, beaked whales were recorded in the Celtic, Irish and North Seas.
S2626	Narwhal <i>(Monodon monoceros)</i>	There were no available records in English waters within the reporting time period.
S2637	Hooded seal <i>(Cystophora cristata)</i>	There were no available records in English waters within the reporting time period.

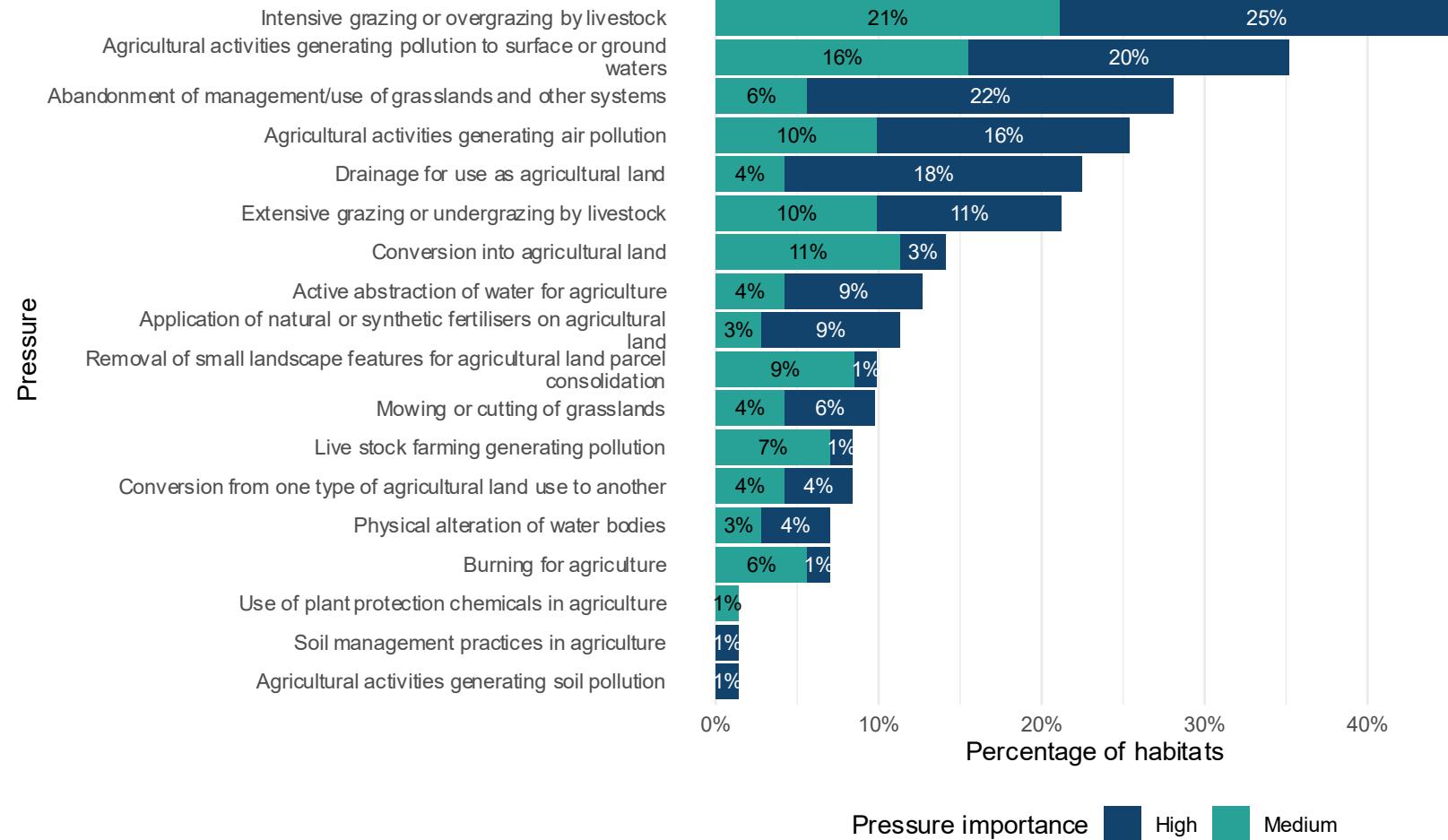
Species Code	Common Name (Latin Name)	Details
S2638	Bearded seal (<i>Erignathus barbatus</i>)	There were no available records in English waters within the reporting time period.
S6305	Ringed seal (<i>Pusa hispida</i>)	There were no available records in English waters within the reporting time period.
S2639	Harp seal (<i>Pagophilus groenlandicus</i>)	There were no available records in English waters within the reporting time period.
S5020	Blue whale (<i>Balaenoptera musculus</i>)	<p>Blue whales are a rare occurrence in UK EEZ waters as their range has not recovered to estimated pre-whaling numbers (Ryan and others, 2022).</p> <p>There were no available records of blue whales in English waters within the reporting time period.</p>
S5023	Fraser's Dolphin (<i>Lagenodelphis hosei</i>)	There were no available records in English waters within the reporting time period.
S5029	Beluga (White Whale) (<i>Delphinapterus leucas</i>)	There were no available records in English waters within the reporting time period.
S5033	Northern bottlenose whale (<i>Hyperoodon ampullatus</i>)	All beaked whale species found in the UK EEZ are present in greatest densities in offshore waters in depths greater than 1000m, proximity to sloping seafloor topography and sea surface temperature (which is species specific) (Lacey and Hammond, 2023). During the reporting time period, beaked whales were recorded in the Celtic, Irish and North Seas.
S5034	Gervais' beaked whale (<i>Mesoplodon europaeus</i>)	All beaked whale species found in the UK EEZ are present in greatest densities in offshore waters in depths greater than 1000m, proximity to sloping seafloor topography and sea surface temperature (which is species specific) (Lacey and Hammond, 2023). During

Species Code	Common Name (Latin Name)	Details
		the reporting time period, beaked whales were recorded in the Celtic, Irish and North Seas.
S6298	Melon-headed Whale (<i>Peponocephala electra</i>)	There were no available records in English waters within the reporting time period.
S1321	Geoffroy's Bat (<i>Myotis emarginatus</i>)	Geoffroy's bat is widespread in central and southern Europe north to southern Netherlands and Poland. It is mainly a sedentary species, sometimes undertaking short migrations and is currently considered to be a vagrant in the UK. There are three English records, of which two within the reporting period: one from West Sussex (2012, retrapped 2013 and 2022), one from Somerset (2013), both at autumn swarming sites; and a grounded adult female that was found on the Sussex coast in 2020.
S1313	Northern Bat (<i>Eptesicus nilsonii</i>)	Northern bat is a mainly northern Europe (boreal) species, summer roosts in buildings, winter roosts often in underground sites. Inland records in England comprise a hibernating bat in Surrey (1987), a bat found roosting in Berkshire (2014), and within the reporting period a grounded bat in Norfolk (2021). It is generally regarded as a more or less sedentary species and considered to be a vagrant in the UK.
S1318	Pond Bat (<i>Myotis dasycneme</i>)	Pond bat is found across lowland northern Europe, from southern Finland to northern France and further south in the east of its range. A medium-range migrant, it is currently considered to be a vagrant in the UK, with surprisingly only one documented record. There were no records within the reporting period.
S1324	Greater Mouse-Eared Bat (<i>Myotis myotis</i>)	Greater Mouse-Eared Bat is a widespread European species found north to the Baltic Sea. It was formerly resident in England with established winter and maternity sites known from Dorset and West Sussex. Both populations were effectively lost by 1980 (when only two bats left in West Sussex, both males, then one from 1985) and finally by 1990. Subsequent occurrences have been

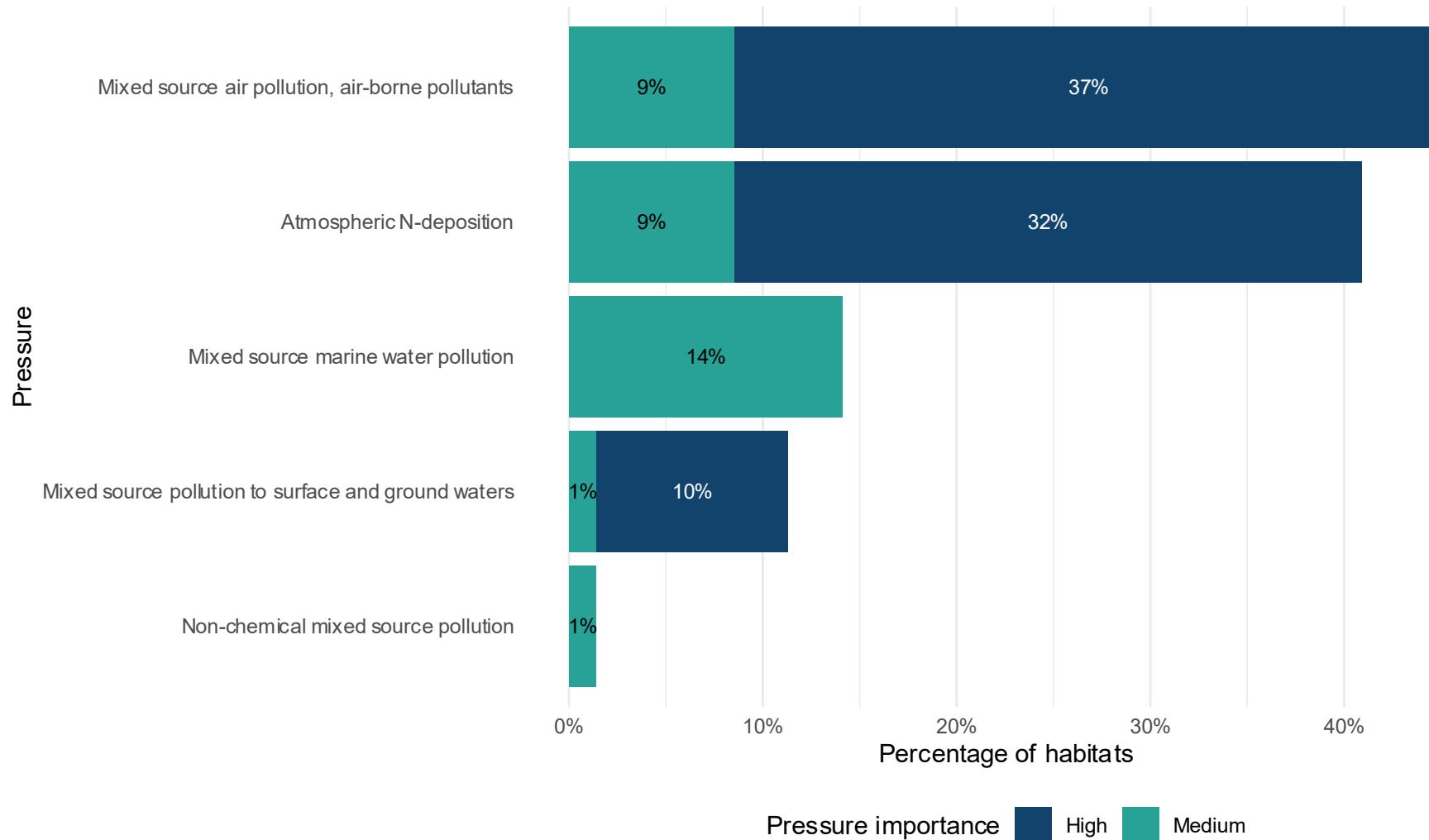
Species Code	Common Name (Latin Name)	Details
		sporadic, in Kent (1985), West Sussex (near known West Sussex sites - 2001), one in West Sussex found hibernating in the previously used site (2002) and recorded almost annually until 2022/23. Within the reporting period a second individual was found hibernating in a nearby West Sussex site in winter 2022/23 with a female present at the same site in 2024/25; it is not known if it was the same individual. In the same winter, an individual was discovered hibernating in Kent. This species is regarded as a regular medium range migrant. The status of this species is uncertain, apparently extinct as a breeding species, but the discovery of at least two new individuals since winter 2022/23 raises the question of whether this could be the start of a recolonisation of former territories.
S1332	Particoloured Bat (<i>Vespertilio murinus</i>)	A northern (boreal) species that is a recognised long-range migrant (to c.1800km). Of c.43 UK records, most are from North Sea oil/gas installations, the east coast and around the south coast to the Isle of Wight with about five records from more inland or western coastal localities. Records are scattered through year, but mostly in autumn with another small peak in spring. This species is regarded as a scarce (but probably regular) migrant to the UK.
S2016	Kuhl's pipistrelle (<i>Pipistrellus kuhlii</i>)	A southern species that has undergone a rapid northerly expansion of range (particularly in the 1980s and 1990s) to include France (to Normandy) and the Channel Islands, and across to Ukraine. It is believed to be generally sedentary. Since 1991, there have been about 20 UK records, plus a number from Jersey (where it breeds) and Guernsey. Three or four of the UK records are clearly imports, the rest mainly from the south coast of England from the Isle of Wight to London. These appear to be natural records mainly associated with migration or dispersal period. This species can currently be regarded as a rare migrant, but with some potential to establish as a breeding species.

Species Code	Common Name (Latin Name)	Details
S1387	<i>Orthotrichum rogeri</i>	Orthotrichum rogeri is one of a suite of epiphytic mosses that have been recorded new to Britain since 2000, originating from further south in Europe, which are considered to be short-lived spore vagrants that are currently unable to survive long-term in Britain. The site of the sole British record from 2014 (Bosanquet, 2015) has been searched without the species being relocated and it has not been found within the reporting period. A documented increase in the Netherlands (BLWG 2018) suggests that future colonisation of Britain could take place.
S1385	Bruchia moss (<i>Bruchia vogesiaca</i>)	Bruchia moss has not been recorded in England since 2007, and it is possible that it may be extinct. However, it is not possible to be certain, as it is a small and inconspicuous species, and may still occur in the Bodmin Moor area. If the species does still survive in England, then there is sufficient suitable habitat in the Bodmin Moor area.

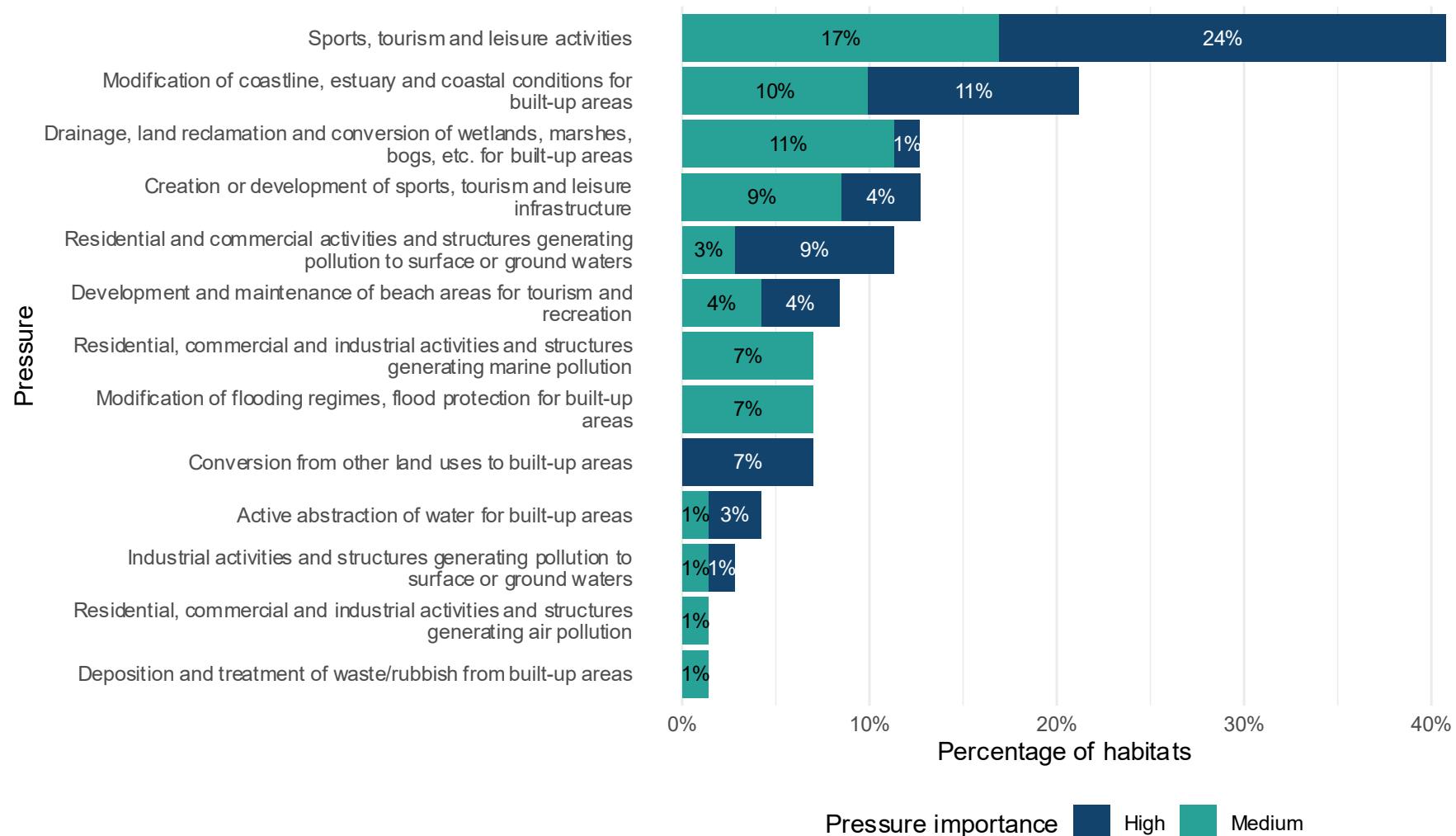
Appendix B. Pressures caused by Agriculture on Habitats Split by Importance of the Pressure



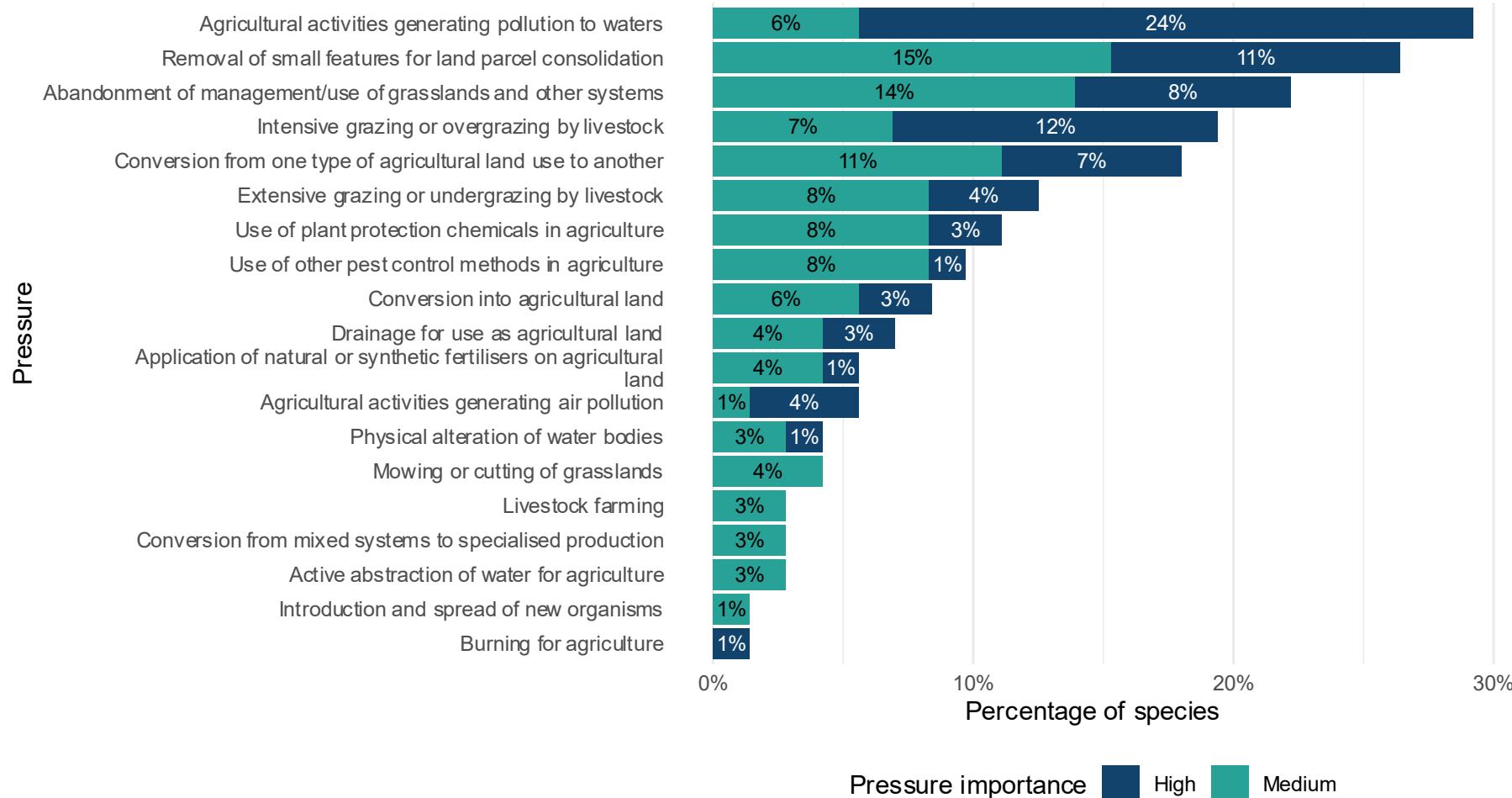
Appendix C. Pressure caused by Mixed Source Pollution on Habitats Split by Importance of Pressure



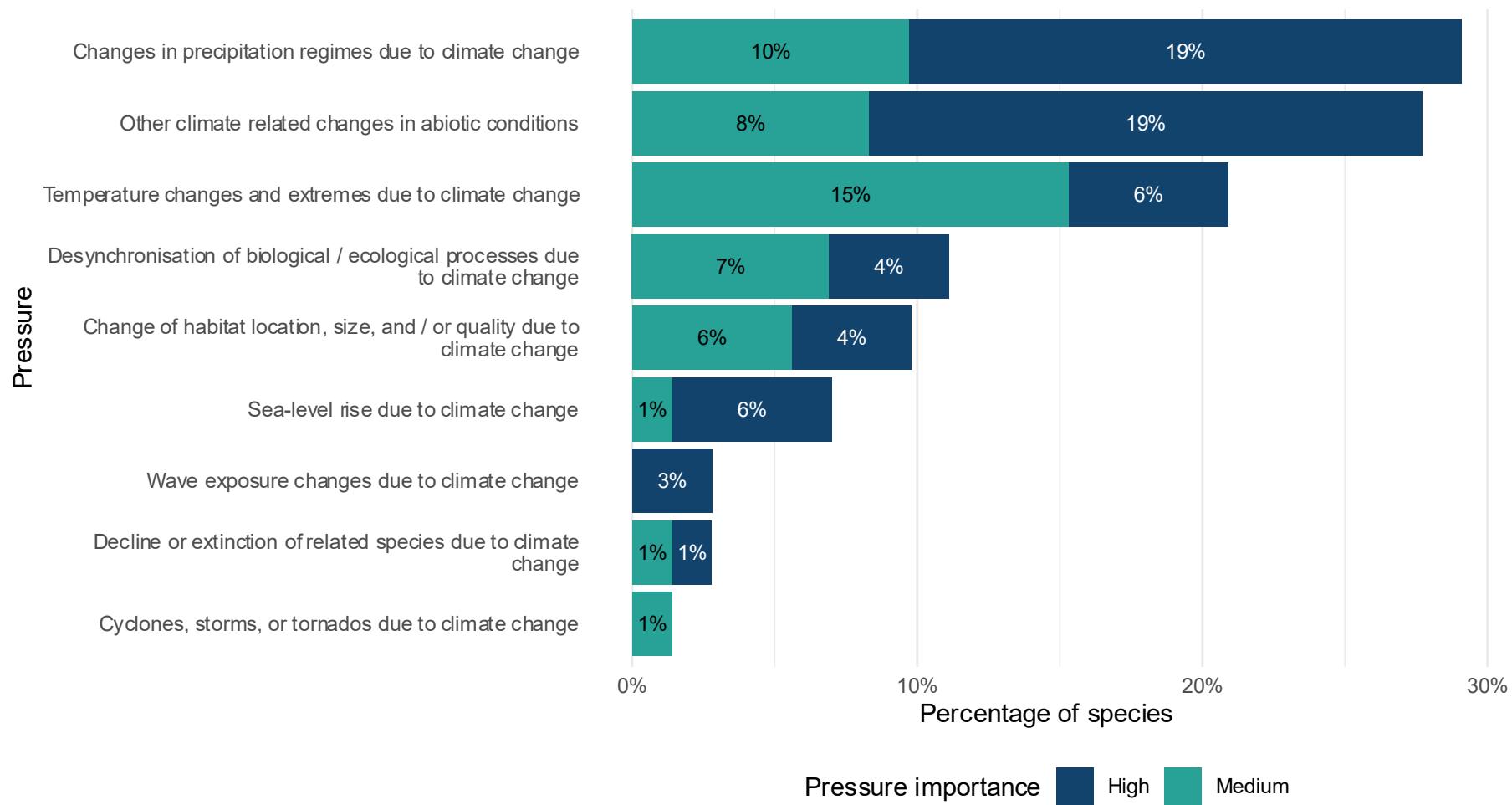
Appendix D. Pressures caused by Residential/Industrial Pollution on Habitats Split by Importance of Pressure



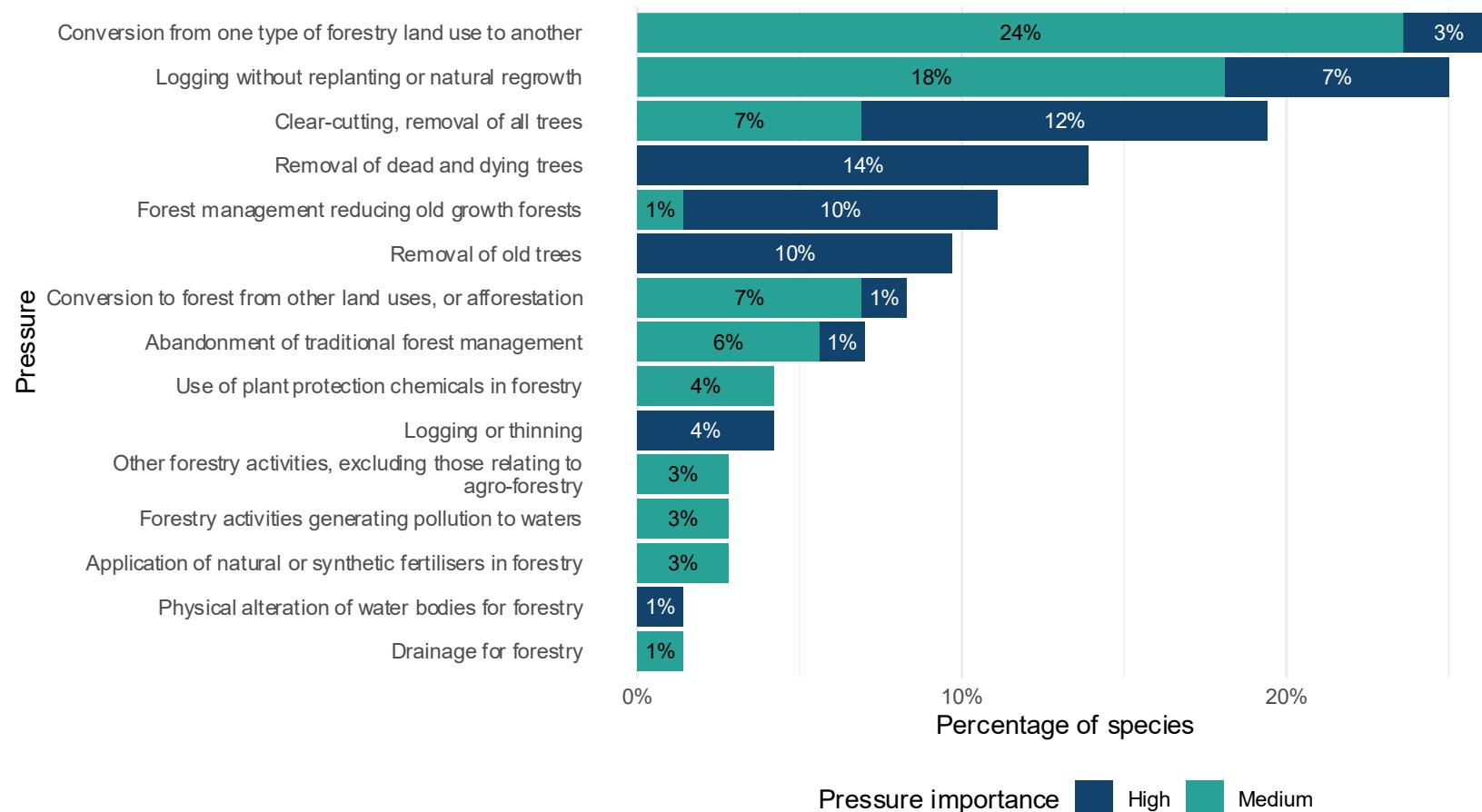
Appendix E. Pressures caused by Agricultural-related Practices on Species Split by Importance of Pressure



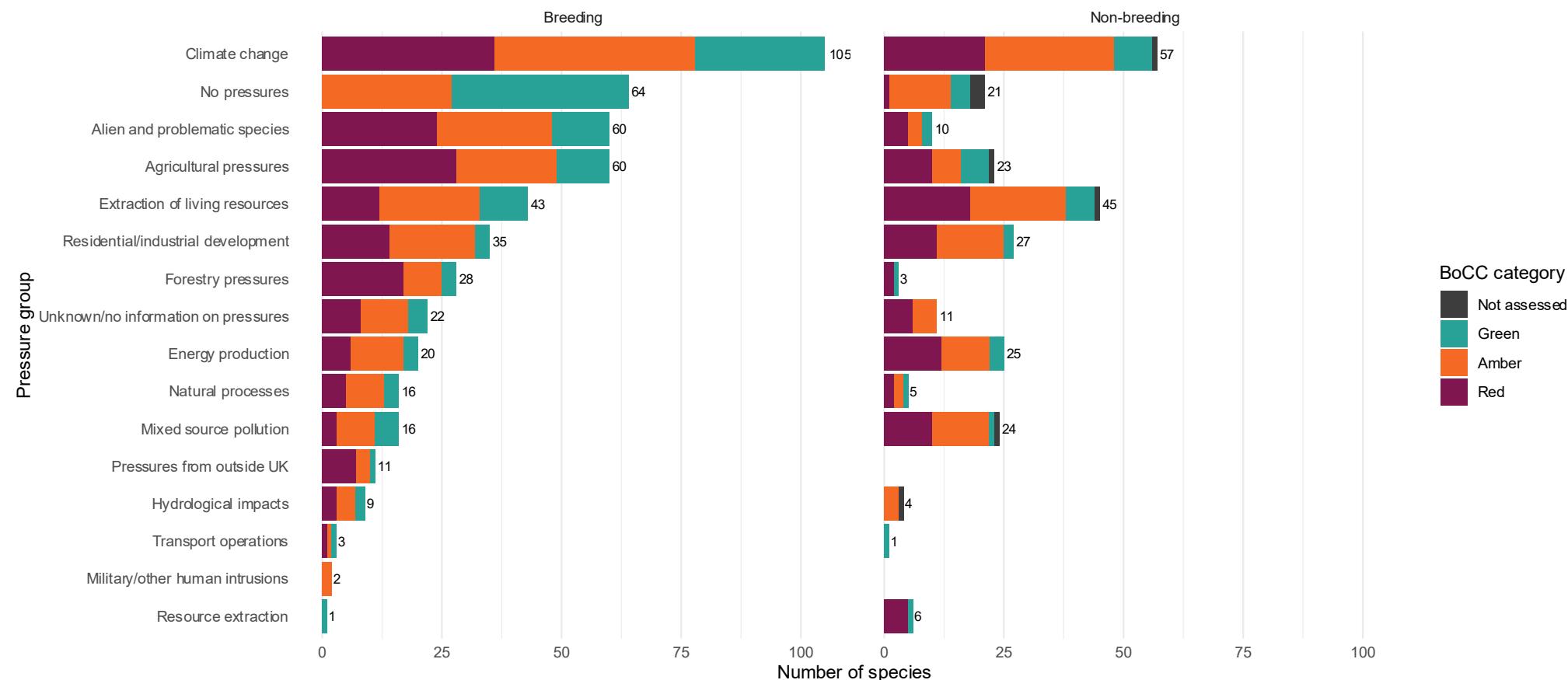
Appendix F. Pressures caused by Climate Change on Species Split by Importance of Pressure



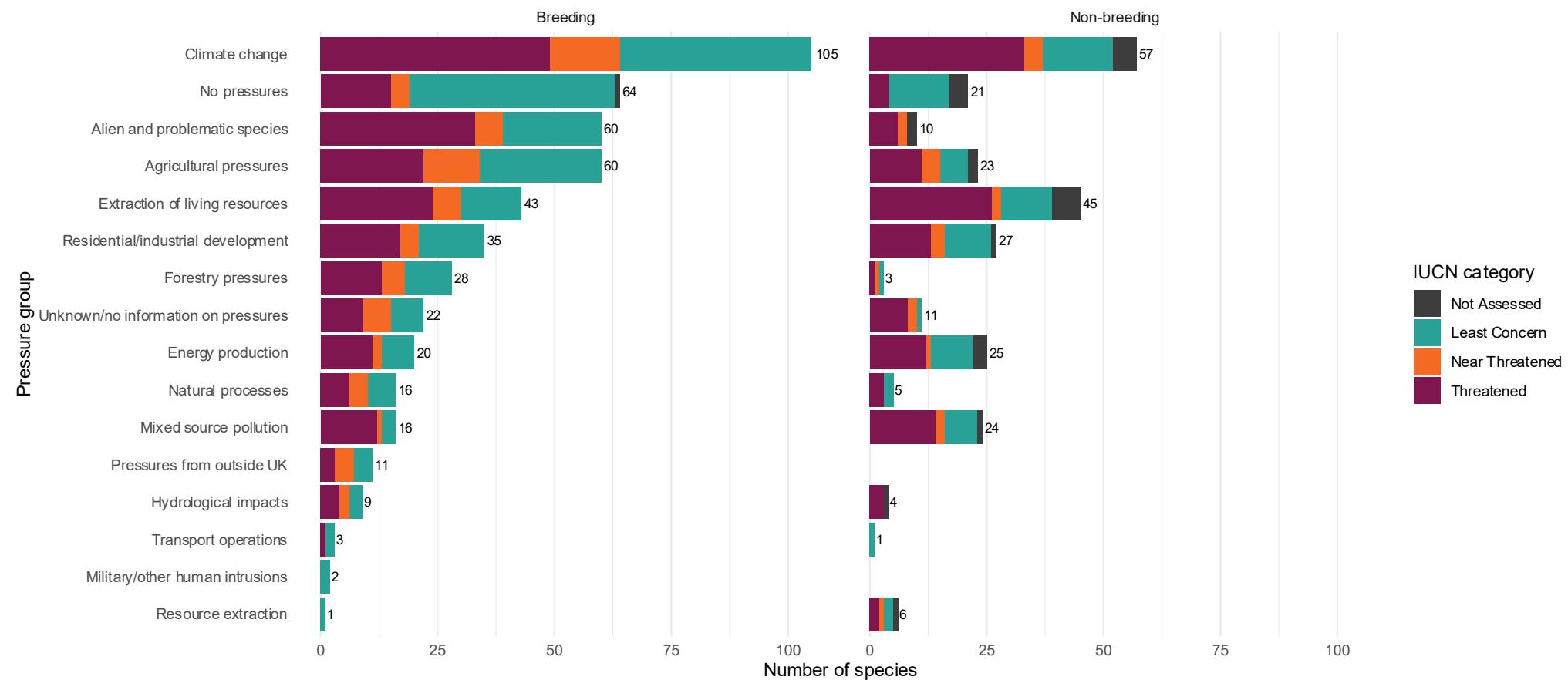
Appendix G. Pressures caused by Forestry Practices on Species Split by Importance of Pressure



Appendix H. Number of Bird Species Affected by Each Pressure Group and Split by Breeding and Non-breeding Populations and Birds of Conservation Concern (BoCC) categories



Appendix I. Number of Bird Species Populations Affected by Each Pressure Group and Split by Breeding and Non-breeding (IUCN categories).



Appendix J. List of Plans and Projects that Resulted in a Derogation on a Special Area of Conservation (SAC) and Special Protection Area (SPA) within the Reporting Period.

National Site Network Site Code	Name of affected Site	Plan or Project Name	Appropriate Authority	Year Appropriate Authority was informed of project
UK0030170	Humber Estuary SAC and SPA	Flood Defence scheme at Victoria Pier, Nelson Street, Kingston upon Hull	Ministry of Housing, Communities & Local Government (MHCLG)	2019
UK9006111				
UK9012031	Medway Estuary and Marshes	Medway Estuary and Swale Strategy	Department for Environment, Food & Rural Affairs (Defra)	2019
UK9012011				
UK9012021	SPA The Swale SPA			

	Thames Estuary and Marshes SPA			
UK0030059 UK9011011	Solent Maritime SAC Chichester and Langstone Harbours SPA	North Portsea Island programme of Flood and Coastal Erosion Risk Management (FCERM) schemes – Phase 4b (Eastern Road)	Defra	2020
UK0013025 UK9005012 UK0013025 UK9020326	Solway Firth SAC Upper Solway Flats and Marshes SPA Morecambe Bay SAC Morecambe Bay and Duddon Estuary SPA	Cumbria Coastal Strategy	Defra	2020

UK0030358	North Norfolk Sandbanks and Saturn Reef SAC	Hornsea Project Three Offshore Windfarm	Department for Energy Security and Net Zero (DESNZ)	2020
UK0017075				
UK9006101	Wash and North Norfolk Coast SAC Flamborough & Filey Coast SPA			
UK0030293	Tyne and Nent SAC	Nent Haggs mine	MHCLG	2020
UK9012091	Dungeness Romney Marsh and Rye Bay SPA	Improvement of flood defences at Lydd Ranges.	Defra	2020
UK9012091	Dungeness, Romney Marsh and Rye Bay SPA	River Rother Tidal Walls East Flood and Coastal Erosion Risk Management Scheme (part of the Folkestone to Cliff End FCERM Strategy)	Defra	2020

UK0030369	Haisborough Hammond and Winterton SAC	Norfolk Boreas offshore windfarm	DESNZ	2021
UK9006101				
UK9009112	Flamborough & Filey Coast SPA Alde-Ore Estuary SPA			
UK0030170	Humber Estuary SAC and SPA	Application to not comply with conditions relating to approved plans for construction of flood defence scheme including associated structures at land at Humber Estuary including St Andrew's Quay, St Andrew's Dock, William Wright Dock, Albert Dock, Island Wharf, Humber Dock Basin, Victoria Pier, Victoria Dock	MHCLG	2021
UK9006111				

		Village East and West		
UK9012041	Pagham Harbour SPA	Creation of a temporary alternative outflow channel to reduce/avoid flood and erosion risk to properties and businesses at Pagham Beach and Haven Church Farm	MHCLG	2021
UK0012557 UK9011031	New Forest SAC and SPA	Reconfiguration of the C97/C63 Ipley crossroads junction to create staggered junction; reinstatement of existing western arm carriageway to heathland; construction of new western arm to south of existing alignment; reinstatement of part of the highway	MHCLG	2021

		at Wootton Bridge near Brockenhurst to heathland to create compensatory habitat.		
UK0012557 UK9011031	New Forest SAC and SPA	Relocation of Hatchet Pond Car Park away from the margins of the pond, closer to the access from the B3055; Reinstatement of the existing car park, part of the access track, lay-by and ice-cream area to habitats	MHCLG	2022
UK0012557 UK9011031	New Forest SAC and SPA	Change of use of land to Sui Generis operational railway land; installation of 1no. HV module, 2no. Auxiliary Transformer and 2no. Isolation	MHCLG	2022

		Transformer units; fence and gates		
UK9006101 UK9009112 UK9020309	Flamborough & Filey Coast SPA Alde-Ore Estuary SPA Outer Thames Estuary SPA	East Anglia One North offshore windfarm	DESNZ	2022
UK9006101 UK9009112 UK9020309	Flamborough & Filey Coast SPA Alde-Ore Estuary SPA Outer Thames Estuary SPA	East Anglia Two offshore windfarm	DESNZ	2022
UK0012734	Avon Gorge Woodlands SAC	Portishead Branch Line- MetroWest Phase 1	Department of Transport (DfT)	2022
UK0030280	South Pennine Moors SAC	Swellands and Black Moss Reservoirs Permanent Access Track	Defra	2022

UK0013016	River Avon SAC	River Avon abstractions	Ministry of Defence (MOD)	2022
UK0030369	Haisborough Hammond and Winterton SAC	Norfolk Vanguard offshore windfarm	DESNZ	2022
UK9009112				
UK9006101	Alde-Ore Estuary SPA Flamborough & Filey Coast SPA			
UK0013577	The Broads SAC	Anglian Water abstraction licence at Witton	Defra	2022-23
UK9009253	Broadland SPA			
UK0030377	Hamford Water SAC	Bathside Bay Container Terminal and Small Boat Harbour.	MHCLG and DfT	2022-23
UK9009131	Hamford Water SPA			
UK9009121	Stour and Orwell Estuaries SPA			
UK0017075	The Wash and North Norfolk Coast SAC	Boston Alternative Energy Facility (BAEF)	DESNZ	2023
UK9008021				

	The Wash SPA			
UK0030280 UK9007022	South Pennine Moors SAC South Pennine Moors Phase II SPA	Construction of track to carry out essential repairs to March Haigh Reservoir	MHCLG	2023
UK0012599	River Itchen SAC	Candover Drought Order (Southern Waters Drought Plan)	Defra	2023 (Agreed in 2018 but timeline for use extended to 2023)
UK0012599	River Itchen SAC	Lower Itchen Drought Order (Southern Waters Drought Plan)	Defra	2023 (Agreed in 2018 but timeline for use extended to 2023)
UK9006101	Flamborough & Filey Coast SPA	Hornsea Project Four Offshore Windfarm	DESNZ	2023
UK9009031 UK9006101	North Norfolk Coast SPA Flamborough & Filey Coast SPA	Sheringham and Dudgeon Extensions offshore windfarm	DESNZ	2024

UK0030033	North Pennine Moors SAC	A66 Northern Trans-Pennine project	DfT	2024
UK0030059 UK9011011	Solent Maritime SAC Chichester and Langstone Harbours SPA	Replacement timber sea wall on existing sea defence line at Tideway's, Lock Lane, Birdham, West Sussex	MHCLG	2024

Appendix K. List of Diffuse Water Pollution Plans Signed Off as 'Complete' during the 2019 and 2024 Reporting Period.

2019

- River Wensum

2020

- Wybunbury Moss
- Minsmere-Walberswick
- River Lambourn

2021

- Poole Harbour
- Bure Broads Marshes

2023

- Marazion Marsh

2024

- River Axe
- Oak Mere
- Ant Broads Marshes
- Yare Broads Marshes
- Trinity Broads
- River Kent
- Dorset Heaths (Part 1 of 3: Holt Heath, South Heath, Turbary Common, Upton Heath, Canford Heath, Ebblake Bog, Spring Bottom, Morden Bog, Lone Pine Drive, Wogret Heath, Little Sea SSSIs)

Appendix L. List of LIFE Programmes that have Operated across England between 2019 and 2024.

Project Title	Project Number	Project Duration
Biosecurity for LIFE: Safeguarding the UK's globally important seabird island SPAs from invasive alien species	LIFE17 GIE/UK/000572	08/2018 – 07/2023
Bringing the Bure back to LIFE (Bure LIFE): Hoveton Wetland Restoration Project	LIFE14 NAT/UK/000054	09/2015 – 06/2023
Curlews in crisis emergency action to halt the decline of curlew <i>Numenius arquata</i> in priority landscapes across the UK	LIFE19 NAT/UK/000844	10/2020 – 12/2025
Dynamic Dunescape	LIFE17 NAT/UK/000570	09/2018 – 09/2025
LIFE - Shad Severn: Conservation and restoration of twaite shad in the Severn Estuary Special Area of Conservation	LIFE15 NAT/UK/000219	07/2016 – 09/2022
LIFE in the Ravines: Restoration of Ravine Woodland in the Peak District Dales SAC to mitigate effects of Ash Dieback	LIFE19 NAT/UK/000147	09/2020 – 11/2026
LIFE Moor Space: Connecting the Humberhead Levels	LIFE20 NAT/UK/000697	10/2021 – 12/2026

Project Title	Project Number	Project Duration
LIFE on the edge: improving the condition and long-term resilience of key coastal SPAs in S, E and NW England)	LIFE19 NAT/UK/000964	10/2020 – 10/2025
LIFE Recreation ReMEDIES: Reducing and Mitigating Erosion and Disturbance Impacts affecting the Seabed	LIFE18 NAT/UK/00039	07/2019 – 10/2024
Marches Mosses Raised Bog Restoration Project	LIFE15 NAT/UK/000786	08/2016 – 07/2022
MoorLIFE 2020	LIFE14 NAT/UK/000070	10/2015 – 09/2022
Pennine PeatLIFE	LIFE15 NAT/UK/000725	08/2017 – 07/2023
Recovering and securing the future of the globally near-threatened black-tailed godwit (<i>Limosa limosa</i>) in the UK	LIFE15 NAT/UK/000753	08/2016 – 07/2023
Restoring and revitalising to ensure a more resilient River Kent and its species	LIFE20 NAT/UK/001013	10/2021 – 01/2027
Water And Disturbance Environmental Restoration on the Northumbrian coast	LIFE20 NAT/UK/000277	10/2021 – 12/2026

Appendix M. Monitoring Schemes Contributing to the Delivery of the Habitats Directive as set out by the Conservation of Habitats and Species Regulations 2017.

Monitoring Scheme	Overview
<u>CASI & LIDAR Habitat Mapping</u>	A collaborative agreement between Natural England and the Environment Agency to produce habitat maps of sand dune and shingle habitats in England. Environment Agency capture and process multispectral imagery (Compact Airborne Spectrographic Imager (CASI)), LIDAR and aerial imagery, this is calibrated against ground truthing data collected by Natural England. A 6-year rolling programme started in 2012 - most sites within the programme have been mapped once during the period 2019-2024.
<u>England Ecosystem Survey (EES)</u>	The EES is a part of the NCEA, which is funded by Defra. It is the largest field survey undertaken in the UK and surveys collect data on soils, vegetation, and landscape changes across the country. The results will allow for national-scale assessments on the state of ecosystems.
<u>Marine Natural Capital and Ecosystem Assessment Programme (mNCEA)</u>	The mNCEA trials innovative methods for monitoring marine ecosystems that aims to provide robust evidence base to transform marine decision-making in England.
<u>National Forest Inventory</u>	The NFI ground survey collects a varied range of qualitative and quantitative information from the one-hectare sample site which supports the evidence gathering and analysis required to report on woodland features under Regulation 9A.
<u>Natural Capital and Ecosystem Assessment (NCEA)</u>	NCEA is a science and innovation programme focused on both land and aquatic environments. Its purpose is to gather comprehensive data on the extent, condition, and changes overtime in England's ecosystem and natural capital, along

Monitoring Scheme	Overview
	with societal benefits they provide. The programme offers valuable insights into the pressures facing these ecosystems, including factors such as air quality, biodiversity, habitat health and overall environmental resilience.
Natural England's inshore Marine Protected Area monitoring programme	This programme covers the monitoring of English inshore MPA features. In recent years the programme has been primarily focused on (but not limited to) benthic habitat features. Evidence collected provides information on the condition of marine features required for statutory reporting obligations and supports assessment as to whether conservation objectives are being achieved. Monitoring evidence informs future monitoring needs, introduction of appropriate management measures, and ultimately decision making to support marine nature recovery.
<u>Nature for Climate Peatland Grant Scheme (NCPGS)</u>	NCPGS collects monitoring data for assessing restoration trajectories. These factors enable calculation of carbon dioxide equivalent emissions saved and allow Natural England to build a picture of England's peatland location and condition, with data incorporated into the England Peat Map and Peatland Restoration Register.
Resurvey of Selected Moorland Agri-environment Agreement Sites	Upland habitats including dry and wet heath, blanket bog and calcareous grassland are Priority Habitats under the UK Biodiversity Action Plan and the UK Post-2010 Biodiversity Framework. Many sites in England have been subjected to long-term monitoring to assess the outcomes on habitat condition of reducing grazing intensity and other management, including altered burning regimes, under agri-environment schemes and Environmental Cross Compliance regulations. The information is required to guide both generalised prescriptions and management practices at individual sites.

Monitoring Scheme	Overview
<u>Saltmarsh Inventory (Saltmarsh Extent & Zonation layer)</u>	The Saltmarsh Extent & Zonation V4_10 layer was mapped from aerial photography collected predominantly between 2016 and 2019. Polygon data layer showing the extent of saltmarsh in England, for use in flood and coastal risk management, and for ecological monitoring and reporting.
<u>Sites of Special Scientific Interest (SSSI) Monitoring Programme</u>	The SSSI monitoring programme assesses the condition of features across the whole of a SSSI, an approach known as Whole Feature Assessment.
<u>The Long-Term Monitoring Network (LTMN)</u>	The LTMN collects data at 37 sites across England, including some of the Special Areas of Conservation like Braunton Burrows. The aim is to track long-term biodiversity change, and to understand the cause of change across a range of habitats. The network collects data on vegetation, butterflies, soils, air pollution, and land management through regular surveys and on-site monitoring.
<u>The UK Air Pollution Impacts on Ecosystems Networks (APIENs)</u>	Formed in 2018. APIENs monitors and reports the negative impacts of air pollution on sensitive environments across the UK. APIENs comprises of several other monitoring schemes across the UK.
<u>British & Irish Marine Turtle Strandings & Sightings</u>	Marine Environmental Monitoring publishes an annual report on observations of Turtles within UK and Irish waters.
<u>Elateroidea (Click beetles and allies) Recording Scheme</u>	The Elateroidea recording scheme was established in 1983 by Howard Mendel and ran until 2024. The data collected is not done systematically or with standardised effort, but it does cover the Violet Click Beetle.
<u>Garden Moth Scheme (GMS)</u>	The GMS collects data on common garden moths from across the UK and includes the Jersey Tiger Moth, a species reported on as part of the Habitats

Monitoring Scheme	Overview
	Regulations. The GMS provides a framework to encourage those trapping moths do so using a standardised approach.
<u>National Amphibian and Reptile Monitoring Programme (NARMP)</u>	NARMP an initiative led by the Amphibian and Reptile Conservation Trust. The programme aims to track the status of amphibians and reptiles across the UK through a numerous surveys and projects which England contributes to.
<u>National Bat Monitoring Programme (NBMP)</u>	NBMP is a UK-wide initiative led by the Bat Conservation Trust in partnership with the Joint Nature Conservation Committee (JNCC). The programme tracks bat populations through volunteer-led surveys and plays a vital role in tracking bat populations across the UK, including England through annual surveys.
<u>National Dormouse Monitoring Programme (NDMP)</u>	Led by the People's Trust for Endangered Species (PTES), the NDMP monitors the long-term dormouse population trend across England and Wales. The results provide the data for the State of Britain's Dormice Report.
<u>National Moth Recording Scheme</u>	Launched in 2007, the National Moth Recording Scheme (NMRS) has collated over 34 million current and historical sightings (records) of moths across the UK, Isle of Man and Channel Islands. Data are not collected systematically or with standardised effort.
<u>National Plant Monitoring Scheme (NPMS)</u>	A collaborative project developed by Botanical Society of Britain and Ireland (BSBI), UK Centre for Ecology & Hydrology (UKCEH), Plantlife, and Joint Nature Conservation Committee (JNCC), it tracks changes in the abundance and diversity of plant species.
<u>Non-marine Molluscs Recording Scheme</u>	A scheme run by the Conchological Society of Great Britain and Ireland, contributing to the Biological Records Centre. Data is not collected systematically or with standardised effort. Records

Monitoring Scheme	Overview
	are freely available on the National Biodiversity Network, except for Freshwater Pearl Mussel and Roman Snail.
<u>Rothamsted Insect Survey (Moths)</u>	The Rothamsted Insect Survey (RIS) has been running two trap networks since 1964. Its long-term data are unique providing information on aphids, larger moths and many other migrating insects. As such, the networks represent the most comprehensive standardised long-term data on insects in the World. Data are collected systematically and with standardised effort.
<u>Sixth National Otter Survey of England</u>	Funded by the Environment Agency and Natural England but led by the Mammal Society. The sixth annual survey took place between 2022-23.
<u>The Joint Cetacean Programme (JCDP)</u>	JCDP is a collaborative initiative that promotes and facilitates data standardisation through the JCDP platform. Data collected on cetaceans from different organisations can be uploaded onto the platform for utilisation.
<u>The Small Cetacean Abundance in the European Atlantic and North Seas (SCANS)</u>	SCANS is a long-standing international monitoring survey that records information on changes in the abundance and distribution of cetacean species. SCANS-IV was completed in 2022 and captured data around England and the wider UK.
<u>The UK Bycatch Monitoring Programme (BMP)</u>	The BMP has operated since 1996 and is coordinated by the Sea Mammal Research Unit at the University of St Andrews.
<u>The UK Environmental Change Network (ECN)</u>	ECN has operated since 1992 and is a programme supported by a consortium of UK government departments who fund and/or carry out site-based monitoring.
<u>The UK Status, Change, and Projections of the Environment (UK-SCAPE)</u>	Funded by the Natural Environment Research Council (NERC), the programme is a UK terrestrial and freshwater monitoring programme. The

Monitoring Scheme	Overview
	programme funds both UKCEH Countryside Survey and the NPMS.
<u>UK Centre for Ecology and Hydrology (UKCEH) Countryside Survey</u>	Funded by the Natural Environment Research Council (NERC) UK-SCAPE programme, the UKCEH Countryside Survey captures data on the natural resources of the countryside.
<u>United Kingdom Butterfly Monitoring Scheme (UKBMS)</u>	The UKBMS is a long-standing monitoring scheme collecting data from over 3,000 sites per year, including Marsh Fritillary Butterfly and Large Blue Butterfly (both reported as part of Regulation 9A).
<u>United Kingdom Directory of Marine Observing Systems (UKDMOS)</u>	UKDMOS is a publicly accessible database holding records of monitoring schemes for marine environments. Although the dataset is UK-wide, an interactive map allows you to identify monitoring schemes occurring in England.

Appendix N. Monitoring Schemes Contributing to the Delivery of the Wild Birds Directive as set out by the Conservation of Habitats and Species Regulations 2017.

Monitoring Scheme	Overview
<u>Breeding Bird Survey (BBS)</u>	The BTO/JNCC/RSPB Breeding Bird Survey (BBS) is the main scheme for monitoring the populations of the UK's common and widespread breeding birds.
<u>Breeding Waders of Wet Meadows (BWWM)</u>	BWWM is a periodic survey of breeding waders in lowland wet grasslands, the latest being in 2021 to 2022. The survey was organised by BTO in partnership with RSPB and commissioned by Natural England.
<u>BTO Bird Ringing Scheme</u>	A long-standing scheme run by the BTO which collects data on bird survival, productivity, and movement. The scheme consists of several surveys including the Constant Effort Sites (CES) scheme. In 2020, BTO piloted a Garden CES scheme in partnership with JNCC and the National Parks & Wildlife Service.
<u>Constant Effort Sites (CES) Scheme</u>	CES scheme is the first national standardised ringing programme has run since 1983. CES is supported by a partnership between BTO and JNCC (on behalf of Defra and SNCBs) and sits within the BTO Bird Ringing Scheme.
<u>Dead Bird Monitoring System including Avian Influenza Monitoring</u>	In England, Wales, and Scotland, a reporting system is in place for notifying authorities about dead wild birds. Additionally, there are established guidelines and monitoring schemes for detecting and managing suspected cases of avian influenza in poultry and other captive birds. These efforts are coordinated by Defra and the Animal and Plant Health Agency (APHA).
<u>Goose and Swan Monitoring Programme (GSMP)</u>	GSMP is a suite of species-specific surveys of non-breeding geese and swans in the UK. The programme is funded by BTO, JNCC, and NatureScot. Specialist goose study groups and other organisations take the lead on a number of surveys.

Monitoring Scheme	Overview
Heronries Census	Annual census of grey herons, little egrets and other rarer colonial waterbirds, including cattle egret and spoonbill. Counts are made by volunteers and collated by the BTO.
Nest Record Scheme (NRS)	The NRS gathers data on the breeding success of Britain's birds by asking volunteers to monitor the progress of individual birds' nests.
Rare Breeding Birds Panel (RBBP)	RBBP gathers data on rarer species of birds in the UK (those with fewer than 2000 breeding pairs). The Panel is made up of representatives from the BTO, RSPB, JNCC (representing the country SNCBs) and the birding community.
Seabird Censuses	The Seabirds Count (2015-2021) was the fourth census of breeding seabirds in Britain and Ireland. The census was coordinated by JNCC and included individual country involvement.
Seabird Monitoring Programme (SMP)	The SMP is a partnership jointly funded by BTO and JNCC (on behalf of the country SNCBs), in association with the RSPB. Some sites are monitored annually, but others less accessible and require periodic bespoke surveys.
The Predatory Bird Monitoring Scheme (PBMS)	PBMS is a long-standing initiative run by the UK Centre for Ecology and Hydrology (UKCEH) and monitors environmental contamination in birds of prey.
The Winter Gull Survey (WinGS)	WinGS ran over 2023/24 and 2024/25 winters, co-ordinated by the BTO, and collected information on the numbers and distributions of wintering gulls.
Waterways Breeding Bird Survey (WBBS)	WBBS is a joint survey with BTO, JNCC, and RSPB, monitoring the population of birds and mammals specifically in waterside habitats.
Wetland Bird Survey (WeBS)	WeBS is an annual survey on non-breeding waterbirds on coastal and inland wetland sites. WeBS is a partnership project funded by the BTO, RSPB, and JNCC (on behalf of country SNCBs).

Appendix O. Selected List of Research Conducted and/or Published within the Reporting Period as a Basis for the Protection, Management, and Sustainable Use of the Bird Population.

Research Area	Title	Year of Publication
National Bird Atlas	<u>Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland</u>	2013
National Bird Monitoring	<u>The State of the UK's Birds</u>	2020
National Bird Monitoring	<u>Wetland Bird Survey Annual Report</u>	2025
National Bird Monitoring	<u>Seabird Monitoring Programme Report</u>	2024
National Bird Monitoring	<u>The Breeding Bird Survey 2024</u>	2025
National Bird Monitoring	<u>The Rare Breeding Birds Panel</u>	2024
National Bird Monitoring	<u>BirdTrends 2023</u>	2024
National Bird Red List	<u>Bird of Conservation Concern 5</u>	2021
National Bird Red List	<u>The status of the UK's breeding seabirds: an addendum to the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain</u>	2024
Other- Ecology	<u>Metabarcoding reveals selective dietary responses to environmental availability in the diet of a nocturnal, aerial insectivore, the European Nightjar (Caprimulgus europaeus)</u>	2021

Research Area	Title	Year of Publication
Other- Ecology	Article Navigation Journal Article The genomics of adaptation to climate in European great tit (<i>Parus major</i>) populations	2023
Other- Ecology	Using citizen science to assess drivers of Common House Martin <i>Delichon urbicum</i> breeding performance	2020
Other- Understanding drivers of population change	Habitat and other environmental correlates of the decline of breeding Whinchats <i>Saxicola rubetra</i> in the UK since the mid-1990s	2023
Other- Understanding drivers of population change	The relationship between Mute Swan <i>Cygnus olor</i> population trends in Great Britain and environmental change	2023
Other- Understanding drivers of population change	Nest survival of threatened Eurasian Curlew (<i>Numenius arquata</i>) breeding at low densities across a human-modified landscape	2022
Other- Understanding drivers of population change	The conservation of Afro-Palaearctic migrants: What we are learning and what we need to know?	2023
Other- Understanding drivers of population change	Aerial insect biomass, but not phenological mismatch, is associated with chick survival of an insectivorous bird	2023
Other- Understanding drivers of population change	Demography of Common Swifts (<i>Apus apus</i>) breeding in the UK associated with local weather but not aphid biomass	2022
Other- Understanding drivers of population change	One-third of English breeding bird species show evidence of population responses to climatic variables over 50 years	2019

Research Area	Title	Year of Publication
Other- Understanding drivers of population change	Climate Change and the UK's Birds	2021
Other- Understanding drivers of population change	Annual abundance of common Kestrels (<i>Falco tinnunculus</i>) is negatively associated with second generation anticoagulant rodenticides	2021
Other- Understanding drivers of population change	Long-term trends of second-generation anticoagulant rodenticides (SGARs) show widespread contamination of a bird-eating predator, the Eurasian Sparrowhawk (<i>Accipiter nisus</i>) in Britain	2022
Other- Understanding drivers of population change	Drivers of the changing abundance of European birds at two spatial scales	2023
Other- Testing and evaluating conservation interventions	Reversing declines in farmland birds: How much agri-environment provision is needed at farm and landscape scales?	2023
Other- Testing and evaluating conservation interventions	Rare and declining bird species benefit most from designating protected areas for conservation in the UK	2022
Other- Testing and evaluating conservation interventions	Linking agri-environment scheme habitat area, predation and the abundance of chick invertebrate prey to the nesting success of a declining farmland bird	2022
Other- Testing and evaluating conservation interventions	The effects of a decade of agri-environment intervention in a lowland farm landscape on population trends of birds and butterflies	2022
Other- Testing and evaluating conservation interventions	The effect of conservation interventions on the abundance of breeding waders within nature reserves in the United Kingdom	2022

Research Area	Title	Year of Publication
Other- Testing and evaluating conservation interventions	Impact of woodland agri-environment management on woodland structure and target bird species	2022
Other- Testing and evaluating conservation interventions	Resource requirements for ecosystem conservation: A combined industrial and natural ecology approach to quantifying natural capital use in nature	2022
Other- Testing and evaluating conservation interventions	Rethinking bird feeding: are we putting extra pressure on some struggling woodland birds?	2021
Other- Testing and evaluating conservation interventions	Effects of experimental land management on habitat use by Eurasian Stone-curlews	2021
Other- Testing and evaluating conservation interventions	Upland rush management advocated by agri-environment schemes increases predation of artificial wader nests	2021
Other- Testing and evaluating conservation interventions	Pond management enhances the local abundance and species richness of farmland bird communities	2019
Other- Testing and evaluating conservation interventions	Seasonal benefits of farmland pond management for birds	2019
Other- Testing and evaluating conservation interventions	Effects of seed-rich habitat provision on territory density, home range and breeding performance of European Turtle Doves <i>Streptopelia turtur</i>	2020

Appendix P. Table of Agri-Environment Scheme Research Projects Conducted During 2019 to 2024 Reporting Period

Project code and link	Project Title	Contractors
<u>LM04115</u>	An analysis of the impact of the Countryside Stewardship woodland improvement option WD2: the potential of field monitoring of option-managed woodlands and existing data sets to evaluate option efficacy.	British Trust for Ornithology (BTO)
<u>LM04121</u>	An evaluation of Agri-Environment Scheme impact on hedgerows in England	UK Centre for Ecology and Hydrology (UKCEH)
<u>LM04130</u>	Public perceptions of the impact of agri-environment schemes on the landscape	Countrywide and Community Research Institute (University of Gloucestershire), Land Use Consultants (LUC), The Research Box
<u>LM04134</u>	Evaluating the impact of AES on pond quality	UK Centre for Ecology and Hydrology (UKCEH)
<u>LM04141</u>	Assessing the impacts of the countryside stewardship (CS) historic buildings restoration grant pilot scheme (HBRGP)	Countrywide and Community Research Institute (University of Gloucestershire)
<u>LM04143</u>	Establishing the influence of nature connectedness of agri environment scheme uptake and delivery	ICF consulting services

<u>LM04144</u>	Assessment of the effectiveness of Agri-environment Schemes in reducing vulnerability of Sites of Special Scientific Interest to climate change	Mott MacDonald, Reading Agricultural Consultants
<u>LM04169</u>	Facilitation fund- synthesis of group reports	Fera Science
<u>LM04170</u>	Modelling landscape-scale response of butterflies to Agri-environment schemes	UK Centre for Ecology and Hydrology (UKCEH)
<u>LM04193</u>	Developing evidence to support better outcomes from the educational access option	Evolved Research and Consulting (ERC)

